



California Wind Energy Association

January 9, 2014

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 13-IEP-1
1516 Ninth Street
Sacramento, CA 95814-5512

Via E-Mail to: docket@energy.ca.gov

Re: *2013 Integrated Energy Policy Report*

The California Wind Energy Association (CalWEA) appreciates the opportunity to provide brief comments on the *2013 Integrated Energy Policy Report* (IEPR). We regret that our comments are coming so late in the process, owing to the heavy demands of participating in all of California's various energy policy forums. Nevertheless, we strongly urge you to consider revising the wind cost data in the 2013 IEPR before adopting it.

The wind cost and cost-trend data presented in Figure 7 (p. 110) are inaccurate and inconsistent with other readily available credible data. Figure 7 shows wind costs in 2013 of just under \$2,500/kW, with that figure holding steady through 2024. The text (at pp. 10 and 110) states that "cost reductions for wind are expected to continue, although they are expected to be offset by increases in the cost of land and transmission" (with footnote 186 saying that this is not the case in some other states).

We take issue with the capacity cost figure and justification, and advise that the IEPR use a 2013 figure of \$2,100/kW, declining by 15-20% by 2024, based on the following:

- **Other sources of wind cost data show lower current and projected capacity costs.** For example:
 - The [DOE/LBL 2012 Wind Technologies Market Report](#) reflects a large sample of actual projects, including 15 projects totaling 1,340 MW of installed capacity in California and 10 projects totaling 1,598 MW of installed capacity in other Western states in 2012, as shown in figure 23 of the report. Based on a breakout of costs readily provided by one of the report's authors, the capacity-weighted average for California projects in 2012 was \$2,196/kW and \$2,056/kW for other western states. **This is ~\$300/kW (12%) lower than the CEC's estimate.**¹

¹ Mark Bolinger, personal communication, January 8, 2014.

- Regarding the cost trajectory, a [2012 literature review](#) of 13 independent studies and 18 scenarios completed for the IEA by Eric Lantz and Maureen Hand at NREL and Ryan Wiser at LBL shows mid-range **reductions in the levelized cost of energy on the order of 23% by 2030 and 30% by 2050.**
- A 2013 [Lazard](#) study of levelized energy costs shows wind energy in the \$1,500-\$2,000/kW range and states, “Wind costs continue to decline; we estimate that the LCOE of leading technologies has fallen by more than 50% in the last four years. While many had anticipated significant declines in the cost of utility-scale solar PV, few anticipated these sorts of cost declines for wind technology.”

These past and expected cost declines are due to a number of factors, including increasing tower height that access better quality wind, longer and larger blades that capture more of the wind, better gearbox reliability, material optimization, and more efficient computer programming.

- **Regarding transmission costs raising wind costs** -- The RPS is an energy, not a capacity, requirement. The RPS statute, in the context of legitimate excuses for non-compliance, requires consideration of the delivery of renewables under the CAISO’s *operational* protocols, not its interconnection protocols.² Accordingly, the Commission has, on more than one occasion, specifically rejected utility proposals to disallow energy-only bids.³ This means that wind projects do not have to pay for costly transmission upgrades to achieve “deliverability” status in order to contribute to RPS (or GHG-reduction) goals. Further, recent studies performed for the CPUC’s Long-Term Procurement Plan demonstrate that there is substantial system overcapacity in the CAISO Balancing Authority Area at least through 2022.
- **Regarding land costs raising wind costs** – Land costs are reflected in current California wind project costs, which are reflected in the LBL and other data noted above. Particularly since much of the most significant remaining wind resources for California are on BLM land in California or outside of California, land costs are not expected to rise over current costs. Further, land costs outside of California are generally far lower, combined with higher quality wind resources, creating lower costs overall.
- **Regarding in-state vs. out-of-state wind resources** – The IEPR assumes that all wind resources are located in California. But the California RPS does not contain an in-state location requirement. While grid-interconnection requirements for “Bucket 1” currently favor in-state resources, the IEPR should recognize several things:

² P.U. Code Sec. 399.15(b)(5)(A).

³ For example, in Commission Decision 13-11-024 conditionally accepting the utilities’ 2013 RPS plans, the Commission reiterated that the utilities must accept bids from energy-only projects and rejected SCE’s proposal to require sellers with energy-only projects to bear the risk of negative CAISO market prices (but accepted SCE’s proposal to apply a congestion adder to energy-only projects).

- “Bucket 2” and “Bucket 3” resources can account for up to 25% of the 33% RPS requirement and potentially higher RPS targets;
- The “Bucket” requirements may change under future policy – note that the Air Resources Board’s June 2010 RPS proposal, which would have been a key part of its GHG-reduction plan, was 100% RECs-based⁴); and
- Even under the current RPS structure, a simple change in WECC transmission reservation rules, especially combined with Western coal plant retirements, could open up significant existing transmission capacity to out-of-state resources that, under a dynamic transfer arrangement, could qualify as “Bucket 1” resources without any additional transmission capacity.
- Out-of-state wind from the best wind resources in the WECC, namely Wyoming, Montana, Colorado, and New Mexico, each offer a combination of low development costs, very high resource performance, and dedicated long haul transmission being developed in coordination with large scale projects (qualifying them for RPS “Bucket 1”). It is anticipated that the delivered cost of these resources will be equal to or less than the delivered cost of many in-state projects.

Please feel free to contact me with any questions.

Sincerely,

/s/

Nancy Rader
Executive Director

cc: Chairman R. Weisenmiller by email (robert.weisenmiller@energy.ca.gov)
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⁴ See “Proposed Regulation for a California Renewable Electricity Standard. Staff Report: Initial Statement of Reasons,” California Air Resources Board. June 2010. (The proposal did not include any restrictions on the use of RECs from the WECC region.)
